

This listing of claims will replace all prior versions, and listings, of claims in the application.

CLAIM AMENDMENTS

Please cancel claims 1-16 without prejudice to or disclaimer of the subject matter contained therein. Claims 17-32 were previously cancelled. Please add new claims 33-48 as follows:

Claims 1-16 (cancelled)

Claims 17-32 (previously cancelled)

Claim 33 (new): A method of identifying the location of a lesion within a breast duct or breast ductal network, said method comprising:

providing a compound comprising a targeting agent coupled to an identifying agent;
delivering said compound into at least one breast duct and allowing said delivered compound to specifically bind to at least one lesion within at least one duct or ductal network;
washing said breast duct or ductal network with a solution to remove nonspecifically bound compound; and
detecting the presence of said identifying agent within said breast duct or ductal network;
wherein the presence of said identifying agent identifies the location of a lesion within said a breast duct or breast ductal network.

Claim 34 (new): A method as in claim 33, wherein delivering comprises non-percutaneous cannulation or catheterization of the breast duct.

Claim 35 (new): A method as in claim 33, wherein the coupled compound is delivered to more than one duct on a breast.

Claim 36 (new): A method as in claim 33, wherein the cells are identified for the purposes of excising tissue surrounding and including the cells.

Claim 37 (new): A method as in claim 33, wherein said target agent comprises an agent selected from the group consisting of a protein; an antibody; an antibody fragment; a polynucleotide; a small molecule; a liposome; a ligand; a lipid; a peptide; and a receptor.

Claim 38 (new): A method as in claim 33, wherein said identifying agent comprises an agent selected from the group consisting of a radioactive agent; a radio-opaque agent; a radiolucent agent; a fluorescent agent; a chemiluminescent agent; and a bioluminescent agent.

Claim 39 (new): A method as in claim 33, wherein said detection of said compound is through magnetic resonance imaging or positron emission tomography.

Claim 40 (new): A method of staging a neoplastic breast lesion within a breast duct or breast ductal network, said method comprising:

providing at least one compound comprising a targeting agent, which specifically binds to either precancerous or cancerous breast lesions, coupled to an identifying agent;

delivering said at least one compound into at least one breast duct and allowing said delivered at least one compound to specifically bind to said lesion within at least one duct or ductal network;

washing said duct or ductal network with a solution to remove nonspecifically bound compound; and

detecting the presence of identifying agent within said breast duct or ductal network;

wherein the presence of said identifying agent determines the stage of said breast lesion as either precancerous or cancerous.

Claim 41 (new): A method as in claim 40, wherein delivering comprises non-percutaneous cannulation or catheterization of the breast duct.

Claim 42 (new): A method as in claim 40, wherein the coupled compound is delivered to more than one duct on a breast.

Claim 43 (new): A method as in claim 40, wherein the cells are identified for the purposes of excising tissue surrounding and including the cells.

Claim 44 (new): A method as is claim 40, wherein said precancerous breast lesion comprises cells having a stage selected from the group consisting of hyperplastic, atypical hyperplastic, or presenting low-grade ductal carcinoma *in situ*.

Claim 45 (new): A method as is claim 40, wherein said cancerous breast lesion comprises cells having a stage selected from the group consisting of high-grade ductal carcinoma *in situ* or invasive carcinoma.

Claim 46 (new): A method as in claim 40, wherein said target agent comprises and agent selected from the group consisting of a protein; an antibody; an antibody fragment; a polynucleotide; a small molecule; a liposome; a ligand; a lipid; a peptide; and a receptor.

Claim 47 (new): A method as in claim 40, wherein said identifying agent comprises and agent selected from the group consisting of a radioactive agent; a radio-opaque agent; a radiolucent agent; a fluorescent agent; a chemiluminescent agent; and a bioluminescent agent.

Claim 48 (new): A method as in claim 40, wherein said detection of said compound is through magnetic resonance imaging or positron emission tomography.